

*REMARKS/ARGUMENTS**The Pending Claims*

Claims 36, 37, and 40-70 are pending and are directed to a bacterial artificial chromosome (BAC) and a method of producing and mutagenizing same.

The Amendments to the Claims

Claim 36 has been amended to recite that the BAC contains all genes that are essential for the generation of an infectious herpes virus in a host cell. This amendment is supported by the specification at, e.g., page 3, first complete paragraph, and page 26, first complete paragraph. Accordingly, no new matter has been added by way of this amendment.

The Office Action

Claims 36, 37, 40, 42, 48, 51, 54, 57, 58, and 64-66 remain rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Messerle et al., *J. Mol. Med.*, 74: B8 (1996) (“the Messerle reference”). Claims 41, 43, 44, 45-47, 49, 50, 52, 53, 55, 56, 59, 60-63, and 67-70 remain rejected under 35 U.S.C. § 103 as allegedly unpatentable over the Messerle reference alone or in combination with one or more of the following secondary references: Tomkinson et al., *J. Virol.*, 67: 7298-7306 (1993) (“the Tomkinson reference”), Ehtisham et al., *J. Virol.*, 67: 5247-5252 (1993) (“the Ehtisham reference”), Gage et al., *J. Virol.*, 66: 5509-5515 (1992) (“the Gage reference”), Roizman et al., *Science*, 229: 1208-1214 (1985) (“the Roizman reference”), Chen et al., *Mol. Cell. Biol.*, 7: 2745-2752 (1987) (“the Chen reference”), and Luckow et al., *J. Virol.*, 67: 4566-4579 (1993) (“the Luckow reference”). Reconsideration of these rejections is respectfully requested.

Examiner Interview

Applicants thank Examiner Sullivan for the courtesy extended to their representative, Melissa E. Kolom, during the telephonic interview held on April 10, 2008. The matters discussed during the interview are substantially as set forth herein.

Discussion of Rejection Under 35 U.S.C. § 102

Claims 36, 37, 40, 42, 48, 51, 54, 57, 58, and 64-66 have been rejected under Section 102(b) as allegedly anticipated by the Messerle reference. This rejection is traversed for the reasons set forth below.

The Office Action maintains that the phrase “an infectious herpes virus genomic sequence” does not limit claim 36 to genomic sequences that are sufficient to generate an infectious virus. As such, the claims allegedly encompass a BAC comprising *any* gene necessary for herpes virus replication and packaging. The Messerle reference allegedly anticipates the subject matter of claim 36 because it discloses two BAC/MCMV hybrid vectors, each of which comprises BAC sequences and an infectious viral genomic sequence larger than 200 kb. Infectious viral progeny is obtained upon co-transfection of both plasmids into cells.

Claim 36, as amended, is directed to a BAC containing bacterial nucleic acid sequences and an infectious herpes virus genomic sequence larger than 100 kb, wherein the BAC contains *all genes that are essential* for the generation of an infectious herpes virus in a host cell. Therefore, claims 36, as amended, specifies that the BAC contains those genes that are essential (i.e., necessary and sufficient) for generating an infectious herpes virus.

The Messerle reference does not disclose the subject matter of the rejected claims. In this respect, the Messerle reference discloses transfecting eukaryotic cells with two BAC/MCMV hybrid plasmids, each of which does not contain all genes that are essential for the generation of an infectious herpes virus in a host cell. In particular, the Messerle reference states that “[t]ransfection of each plasmid alone into eukaryotic cells did not result in the production of a progeny.” Thus, neither of the two individual plasmids described by the Messerle 1996 can generate an infectious herpes virus in a host cell. Infectious viral progeny can only be obtained by co-transfection of both plasmids.

Thus, the Messerle reference does not disclose the subject matter of claims 36, 37, 40, 42, 48, 51, 54, 57, 58, and 64-66. Accordingly, the rejection under Section 102(b) should be withdrawn.

Discussion of Rejections Under 35 U.S.C. § 103


Claims 41, 43, 44, 45-47, 49, 50, 52, 53, 55, 56, 59, 60-63, and 67-70 have been rejected under Section 103 as allegedly unpatentable over the Messerle reference alone or in combination with one or more secondary references. This rejection is traversed for the reasons set forth below.

Claims 41, 43, 44, 45-47, 49, 50, 52, 53, 55, 56, 59, 60-63, and 67-70 directly or indirectly depend from claim 36. As discussed above, the Messerle reference does not disclose or suggest the subject matter of claim 36. As a result, the Messerle reference does not disclose or suggest the subject matter of claims 41, 43, 44, 45-47, 49, 50, 52, 53, 55, 56, 59, 60-63, or 67-70. None of the secondary references cited by the Office Action compensates for the deficiencies of the Messerle reference. In this respect, none of the Tomkinson, Ehtisham, Gage, Roizman, Chen, or Luckow references discloses or suggests a BAC containing *all genes that are essential* for the generation of an infectious herpes virus in a host cell. Accordingly, the Section 103 rejection should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned agent.

Respectfully submitted,



Melissa E. Kolom, Reg. No. 51,860
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

Date: May 5, 2008